



Evaluation of SAGE Electrochromic Devices

Cooperative Research and Development Final Report

CRADA Number: CRD-15-579

NREL Technical Contact: Robert Tenent

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In accordance with Requirements set forth in Article X: REPORTS AND PUBLICATIONS A.(2), of the CRADA agreement, this document is the final CRADA report, including a list of Subject Inventions, to be forwarded to the DOE Office of Science and Technical Information as part of the commitment to the public to demonstrate results of federally funded research.

Parties to the Agreement: SAGE Electrochromics Inc.

CRADA number: CRD-15-579

CRADA Title: Evaluation of SAGE Electrochromic Devices

Joint Work Statement Funding Table showing DOE commitment:

Estimated Costs	NREL Shared Resources a/k/a Government In-Kind
Year 1	\$ 87,000.00
TOTALS	\$ 87,000.00

Abstract of CRADA Work:

NREL will conduct durability testing of Sage Electrochromics dynamic windows products using American Society for Testing and Materials (ASTM) standard methods and drive parameters as defined by Sage. Window units will be tested and standard analysis performed. Data will be summarized and reported back to Sage at the end of the testing period.

Summary of Research Results:

The National Renewable Energy Laboratory (NREL) performed an evaluation of eight (8), 12” x 12” SAGE Electrochromic test samples. The evaluation of four (4) of the submitted samples was performed in accordance with the most current released version of ASTM E2141 Standard Test Method for Accelerated Aging of Electrochromic Devices in Sealed Insulating Glass Units. These four (4) samples were evaluated in accordance with ASTM 2141 Standard Specification for Evaluating the Accelerated Aging Performance of Electrochromic Devices in Sealed Insulating Glass Units.

The weathering of 4 samples was conducted as outlined in the current version of the ASTM E2141 test method employing a cycling algorithm, which has been defined by SAGE Electrochromics and required a deeper cycle than is currently required by the current revision of test method ASTM 2141. These samples were evaluated using methods described in ASTM 2141 Standard Specification for Evaluating the Accelerated Aging Performance of

Electrochromic Devices in Sealed Insulating Glass Units with a view to gathering data to support discussion on possible changes and will be judged against the requirements of EXXXX.

TASKS

1.1 NREL received a total of ten (10), 12” x 12” samples of SAGE Electrochromic sealed insulating glass units.

1.2 Pre-weatherization evaluation of the SAGE samples did not begin until a representative of SAGE Electrochromics was present to witness the initial evaluation of the samples and the initiation of the weathering testing.

1.3 Weatherization of the SAGE samples was completed by NREL in compliance with the conditions defined in ASTM 2141.

1.4 Post weatherization evaluation of the SAGE samples did not begin until a representative of SAGE Electrochromics was present to witness the evaluation.

Subject Inventions Listing:

N/A

ROI #:

N/A

Report Date:

30 November 2017

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DOE Program Office:

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